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Ames Research Center

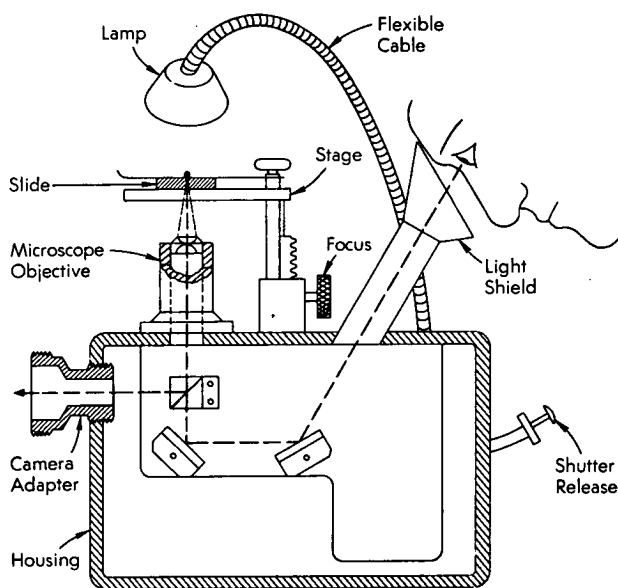


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Hand-Held Photomicroscopy System

The problem:

Laboratory microscopy systems are heavy and large; their use in the field is impractical. As a result, samples must be collected and then transported to the laboratory for examination and recording. The



few hand-held systems that are available are intended for use with specific cameras and cannot be readily adapted for use with other kinds of cameras.

The solution:

A photomicroscopy system with simple optics that can be used with any type of motion picture, still, or television camera system.

How it's done:

The photomicroscopy attachment is constructed essentially as indicated in the diagram. The specimen slide is supported on the stage, and the stage is moved by a rack and gear to provide focus. A beam splitter divides light passed by a microscope objective so that the projected image can be viewed through the eye piece. The illumination lamp support is adjustable both horizontally and vertically; although a flexible cable is shown in the diagram, other types of supports may be used, especially if it is necessary to lock the lamp into a fixed position. The lamp is powered by batteries contained within the housing and a potentiometer can be used to vary the intensity of the illumination. A camera is attached to the unit with an adapter tube, and a convenient triggering mechanism for the camera shutter is attached to the camera and fastened to the housing. Any standard microscope objective may be used; additional objectives may be stored in the housing. Although the unit can be held in the hand, the entire assembly may be preferably mounted on a standard tripod head.

Notes:

1. The photomicroscopy system performs well under difficult environmental conditions; it can be used for work in ecological studies, field hospitals, and geological surveys.
2. Requests for further information may be directed to:

Technology Utilization Officer
Ames Research Center
Moffett Field, California 94035
Reference: TSP 72-10190

(continued overleaf)

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to:

Patent Counsel
Mail Code 200-11A
Ames Research Center
Moffett Field, California 94035

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(ARC-10468)